

ABSTRACT

Disclosed is a method for forming a multi-layered structure having at least two films on a semiconductor substrate. The substrate is disposed on a thermally conductible stage for supporting the substrate. After the distance between the stage and the substrate is adjusted to a first interval so that the substrate has a first temperature by heat transferred from the stage, a first thin film is formed on the substrate at the first temperature. The distance is then adjusted from the first interval to a second interval so that the substrate reaches a second temperature, and then a second thin film is formed on the first thin film at the second temperature, thereby forming the multi-layered structure on the substrate. The multi-layered structure can be employed for a gate insulation film or the dielectric film of a capacitor.